REMARKS

I. Status of the Claims

Claims 18-39 are pending in the application. No claims have been amended or canceled in this response.

II. Rejections under 35 U.S.C. § 103

The Examiner has rejected claims 18-39 under 35 U.S.C. §103(a) as being unpatentable over International Patent Publication WO 00/11725 to Forrest et al. ("*Forrest '725*") in view of several other references for the reasons described on pages 3-15 of the Office Action. Applicants respectfully disagree and traverse these rejections for the reasons of record, and for the following additional reasons.

Several basic factual inquires must be made in order to determine whether the claims of a patent application are obvious under 35 U.S.C. § 103. These factual inquiries, set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), require the Examiner to:

(1) Determine the scope and content of the prior art;

(2) Ascertain the differences between the prior art and the claims in issue;

(3) Resolve the level of ordinary skill in the pertinent art; and

(4) Evaluate evidence of secondary considerations.

The obviousness or non-obviousness of the claimed invention is then evaluated in view of the results of these inquiries. *Graham*, 383 U.S. at 17-18, 148 USPQ 467; *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727,1734 (2007); and M.P.E.P. § 2141. "The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious." M.P.E.P. § 2141(III).

"The Supreme Court in *KSR* noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit." Id. "[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." Id. (internal citations omitted).

Even in view of the *KSR* decision, it is still clear that "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the results would have been predictable to one of ordinary skill in the art" at the time the invention was made. *M.P.E.P.* § 2143.01(III) (internal citations omitted). In addition, when "determining the differences between the prior art and the claims, the question under 35 U.S.C. § 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious." *M.P.E.P.* § 2141.02(I) (internal citations omitted) (emphasis in original).

In the present case, the Examiner alleges that "[a]s seen in Figures 8A, 8B, 8C, 8D, and 9 Forrest et al '725 teaches a stacked organic photosensitive optoelectronic device that comprises in order, an anode, a plurality of photosensitive optoelectronic subcells, and a cathode...Between each of the subcells is a semitransparent metallic layer of, for example, 10% Ag and 90% Mg, which has a thickness of 100 Angstroms or less, i.e., instant electro-hole recombination zone." See Office Action at page 3. Applicants respectfully disagree at least because the Examiner has erred in interpreting *Forrest '725*'s disclosure.

Applicants submit that Forrest's *Forrest '725* device is clearly distinct from the claimed invention. Specifically, the charge transfer layers disclosed by *Forrest '725* is

significantly different from the electron-hole recombination zone of the present invention. *Forrest '725* discloses an organic photosensitive optoelectronic device consisting of a plurality of stacked photosensitive optoelectronic subcells, each subcell having one or more photosensitive optoelectronically active layers and transparent charge transfer layers or electrodes. *Forrest '725* page 1, lines 12-15.

Forrest '725, at best, describes organic photosensitive optoelectronic devices, which may include a stacked architecture. However, the devices in *Forrest '725* are designed so that like signed charge carriers are carried from one side of a charge transfer layer to the other – that is they pass through the layer. *Forrest '725* does not provide guidance for controlling the recombination of carriers. *Forrest '725* does not provide anywhere in the description a teaching of an electron-hole recombination zone. In fact, this reference makes only a historical reference to another document for anything similar to an electron-hole-recombination-zone. *See Forrest '725* at p.13, line 24 *et seq.* However, even in this cited reference, the device is described as having a thick transparent layer, unlike the layer presently claimed. *See also, Id.* at p. 22, line 5 (describing the intervening layer as a "transparent electrode").

Furthermore, rather than render the claimed invention obvious, *Forrest '725* actually describes drawbacks and disadvantages of such a device. As one skilled in the art would appreciate, what Forrest has disclosed, i.e. an electrode or a charge transfer layer, is very different from the electron-hole recombination zone of the present application. In Forrest '725 like signed carriers pass through the continuous and thick layer moving from one subcell to another or to an external circuit. In this invention opposite signed carriers approach from either side and recombine at the thin,

discontinuous layer recombination sites. For at least these reasons, the present invention is clearly distinct from the thicker layers mentioned in *Forrest '725* in that the thickness of the claimed invention allows opposite signed carriers to approach from multiple directions and recombine. For this additional reason, the layer described in *Forrest '725* differs substantially in thickness (*e.g.*, 0.5 nm versus 100-400 nm) in both form and function.

In Figure 8D, for example, *Forrest '725* teaches that the subunits are "interconnected by charge transfer layers 8D10, 8D11 and 8D12 of, e.g. ITO of approximate thickness 1000-4000 Å, preferably less than 2000 Å and most preferably around 1000 Å." See id. page 35, line 29 to page 36, line 1. It is thus to be recognized that the layer between the subunits of *Forrest '725*'s disclosure is a charge transfer layer consists of non-metallic material with a thickness of 1000 Å to 4000 Å and **not** a thin semitransparent metallic layers with a thickness of 100 Å as alleged by the Examiner. To the extent that *Forrest '725* teaches to incorporate a thin semitransparent metallic layers with a thickness of 100 Å, it was used only as an auxiliary to the charge transfer layer consists of thick (1000-4000 Å) non-metallic material such as ITO and **not alone** in between the subunits. Specifically, *Forrest '725* states that "[i]n order to **take advantage where possible of the beneficial effect of a thin metallic layer combined with a layer of ITO**, using what is herein referred to as a metallic/non-metallic composite electrode, thin semitransparent metallic layers, e.g., Mg:Ag, are added in several places. Metallic layer 8B06 is adjacent to ITO layer 802a. Metallic layers 8B07 and 8B08 are adjacent to ITO layers 802b. Metallic layer 8B09 is adjacent to ITO layer 802c." Id. at page 34, lines 21-27 (emphasis added). Furthermore, with

respect to an alternative structure of Figure 8D, *Forrest '725* teaches that "a thin semitransparent metallic layers of, e.g., 10% Ag in 90% Mg, or other low work function metals or metal alloys layers of approximate thickness 100 Å or less are placed below and adjacent to layers 8D10, 8D11 and 8D12 to form metallic/non-metallic composite charge transfer layers..." See id at page 36, lines 3-8. The function of the material disclosed in *Forrest '725* is to enhance the optical transmission characteristics of the device, not to facilitate recombination, as claimed.

Based on the foregoing, it is quite clear that *Forrest '725* does not teach or suggest to place a thin semitransparent metallic layer alone *between* each of the subcells, or the benefits associated with such a layer. Indeed, in view of *Forrest '725's* teachings, a skilled artisan would conceive that the thick (1000-4000 Å) non-metallic material such as ITO is essential to the charge transfer layer between subunits, and the 100 Å thick semitransparent metallic layer is incorporated only as an auxiliary and thus can be eliminated. *Forrest '725* does not teach or suggest placing a thin metallic layer in between the subunits as claimed, which is certainly contrary to the claimed invention. Furthermore, in contrast to the claimed recombination layer, which is transparent, at thicknesses of 100 Å, the metallic layer, such as Ag, starts to become opaque.

Applicants further submits that the function of *Forrest '725*'s charge transfer layer is different from the intended purpose of the present invention's electron-hole recombination zone, and thus *Forrest '725's* disclosure in fact teaches away from the presently claimed invention. *Forrest '725* teaches that the charge transfer layer is served to "only delivers charge carriers from one subsection of an optoelectronic device to the adjacent subsection." See Id. page 7, lines 8-11. The electron-hole

recombination zone of the present invention, on the other hand, is to **prevent** the formation of an inverse heterojunction between the acceptor layer of the front cell and the donor layer of the back cell. In other words, the electron-hole recombination zone allows the opposite charge carriers to recombine rather than being transferred **through** the layer to an adjacent layer or subcell. Thus, the charge transfer layer in *Forrest '725* is distinct from the electron-hole transfer recombination zone of the present invention in that one allows charge carriers to pass from one subsection of a device to another, without recombination with a charge of the opposites sign (*Forrest '725*), while the other purposely requires the recombination to occur. Consequently, *Forrest '725*'s charge transfer layer is thick and about 1000-4000 Á in thickness and the electron-hole recombination zone of the present invention is thin and less than 20 Á.

The Examiner's remarks that the distinction over *Forrest '725* based on the thicker charge transfer layer, is "not persuasive, because the instant limitation to an electron-hole recombination zone does not preclude such an ITO layer also being present" is irrelevant. The claimed electron-hole recombination zone is less than 20 Á thick. Whether an ITO layer is precluded from this zone or not is irrelevant in the context of *Forrest '725* because this reference teaches much thicker charge transfer layers. The presence of ITO in the claimed recombination zone, if not precluded as the Examiner argues, would only lead to a thicker layer.

Furthermore, *Forrest '725* teaches adding a semitransparent metallic layer to enhance the function of the non-metallic charge transfer layer based on ITO and not to act as a charge transfer layer alone. Indeed, to arrive at the claimed invention from the teachings of *Forrest '725*, a skilled artisan would have to eliminate the non-metallic

charge transfer layer and keep only a semitransparent metallic layer in between the subunits, which, clearly, would defeat the intended purpose of the various layers described in *Forrest '725*.

The Examiner's attention is specifically directed to well-known Federal Circuit decisions holding that if a proposal for modifying the prior art in an effort to attain the claimed invention causes the art to become inoperable or destroys its intended function, then the requisite motivation to make the modification would not have existed. See, *In re Fritch*, 972 F.2d 1260, 1265-66, 23 U.S.P.Q.2d 1780, 1783 (Fed. Cir. 1992); *In re Ratti*, 270 F.2d 810, 813, 123 U.S.P.Q. 349, 352 (C.C.P.A. 1959) (holding the suggested combination of references improper under section 103 because it "would require a substantial reconstruction and redesign of the elements shown in [a prior art reference] as well as a change in the basic principles under which [that reference's] construction was designed to operate.").

The Examiner's position that "Forrest et al's semitransparent metallic layer provides the claimed property of being an electron-hole recombination zone", Office Action at page 19, is fundamentally erroneous and violate the teaching of *Forrest '725*, as described above and expanded on below.

First, *Forrest '725* teaches to incorporate a semitransparent metallic layer to **enhance** the transmission characteristics and **not** to facilitate recombination of charge carriers. Second, Forrest's semitransparent metallic layer is located in Forrest's device as a part of an electrode (e.g. cathode) or a charge transfer layer. As noted above, the function of an electrode or a charge transfer layer is different from the function of an electron-hole recombination zone recited in the present application. Specifically, an

electrode "provides the interface between the photoconductively active regions of an organic photosensitve optoelectronic device and a wire, lead, trace or other means for **transporting the charge carriers to or from the external circuit**." *Forrest '725*, page 7, lines 5-8, emphasis added; see also page 7, lines 8-11, teaching that a charge transfer layer "**only delivers** charge carriers from one subsection of an optoelectronic device to the adjacent subsection." (emphasis added). An electron-hole recombination zone, on the other hand, **recombine** the opposite signed carriers so they do **not** go through the layer. Third, *Forrest '725's* semitransparent metallic layer has a thicknesses of 100 Å, and a metallic layer starts to become opaque at such thickness. However, the presently claimed electron-hole recombination zone has a thickness of less than 20 Å, which clearly ensures that the layer is transparent.

For at least these reasons, the photovoltaic device disclosed in *Forrest '725* is different from the claimed invention. In view of the fact that *Forrest '725* does not teach or suggest an electron-hole recombination zone that is less than about 20 Å, Applicants submit that each of the section 103(a) rejections based on this reference are improper as follow.

A. The Examiner has rejected claims 18, 19, 22-25, and 29 under 35 U.S.C. § 103(a) as being unpatentable over *Forrest '725* in view of U.S. Patent No. 4,479,028 to Sato et al. ("*Sato*") and U.S. Patent No. 4,316,049 to Hanak ("*Hanak*") for the reasons described on pages 3-6 of the Office Action. Applicants respectfully disagree and traverse this rejection for at least the following reasons.

As previously shown, *Forrest '725* teaches a photovoltaic device that is different from the present invention at least because *Forrest '725* does not teach a layer of

electron-hole recombination zone, and does not teach a layer less than about 20 Å. The deficiencies in *Forrest '725* are not remedied by either *Sato* or *Hanak,* in fact, both *Sato* and *Hanak* are directed to inorganic amorphous silicon-based devices rather than the organic devices of the present invention. Furthermore, the Examiner admittedly relies *Sato* and *Hanka* only for its alleged teaching on adjusting the thickness of subcells layers or the current produced and have nothing to do with an electron-hole recombination zone that is less than 20 Å. Therefore, nothing, other than Applicants disclosure, remotely teaches or suggests the claimed electron-hole recombination zone, the Examiner has failed to establish a *prima facie* case of obviousness. Thus, Applicants respectfully request that this rejection be withdrawn.

B. The Examiner has rejected claims 20 and 21 under 35 U.S.C. § 103(a) as being unpatentable over *Forrest '725* in view of *Sato* and *Hanak* as applied to claims 18, 19, 22-25, and 29 above, and further in view of Peumans et al. "Efficient photon harvesting at high optical intensities in ultrathin organic double-heterostructure photovoltaic devices," Applied Physics Letters, vol. 76(19), pages 2650-2652, May 8, 2000 ("*Peumans*"), for the reasons described on page 7 of the Office Action. Applicants respectfully disagree and traverse this rejection for at least the following reasons.

The Examiner relies on *Peumans* for the limited teachings related to the use of an exciton blocking layer (EBL), such as BCP. *Id.* As this reference does not teach or suggest the electron-hole recombination zone, it cannot cure the previously described deficiencies of *Forrest '725*, *Sato*, and *Hanak*. Furthermore, *Peumans* is directed to a single cell photovoltaic diodes and not a stacked subcell device of the present invention.

Accordingly, the combination of references does not support this rejection. Applicants respectfully request that this rejection be withdrawn.

C. The Examiner has rejected claims 27 and 28 under 35 U.S.C. § 103(a) as being unpatentable over *Forrest '725* in view of *Sato* and *Hanak* as applied to claims 18, 19, 22-25, and 29 above, and further in view of Pettersson et al., "Modeling photocurrent action spectra of photovoltaic devices based on organic thin films," Journal of Applied Physics, vol. 86, no. 1, pages 487-496, July 1, 1999 ("*Pettersson*"), for the reasons described on page 8 of the Office Action. Applicants respectfully disagree and traverse this rejection for at least the following reasons.

The Examiner relies on *Pettersson* for the limited teachings related to the use of an anode-smoothing layer, such as PEDOT. *Id.* As this reference does not teach or suggest the electron-hole recombination zone, it cannot cure the previously described deficiencies of *Forrest '725*, *Sato*, and *Hanak*. In fact, *Pettersson* is directed to a single cell photovoltaic device and not a stacked subcell device of the present invention. Accordingly, the combination of references does not support this rejection. Applicants respectfully request that this rejection be withdrawn.

D. The Examiner has rejected claims 18, 19, 22-26, 29, 30, 33, and 37-39 under 35 U.S.C. § 103(a) as being unpatentable over *Forrest '725* in view of *Sato*, *Hanak*, and U.S. Patent No. 4,771,321 to Lewis ("*Lewis*"), for the reasons described on pages 8-12 of the Office Action. Applicants respectfully disagree and traverse this rejection for at least the following reasons.

As previously shown, *Forrest '725* teaches a photovoltaic device that is different from the claimed invention at least because *Forrest '725* teaches to place a thick layer

of charge transfer layer (1000-4000 Å) in between subcells and does not teach or suggest a layer of electron-hole recombination zone that is less than about 20 Å. Neither *Sato* nor *Hanak* cure the deficiencies of *Forrest '725*.

The Examiner relies on *Lewis* for the limited teachings related to "a thin layer of ohmic conductive substance, such a aluminum, where said layer forms beads which serve as shorting interconnect while passing a large fraction of the radiation to the lower subcells and permitting lattice-matching between the subcells to be preserved." *Id.* at 12. Notwithstanding the fact that *Lewis* describes neither an organic-based device nor a recombination zone, as stated above, replacing the charge-transfer layer of *Forrest '725* with *Lewis*' thin layer of high ohmic conductive substance would defeat the primary (if not sole) intent of *Forrest '725*, and thus the combination suggested by the Examiner is improper. Applicants respectfully request that this rejection be withdrawn.

E. The Examiner has rejected claims 20, 21, 31, and 32 under 35 U.S.C. § 103(a) as being unpatentable over *Forrest '725* in view of *Sato*, *Hanak*, and *Lewis* as applied to claims 18, 19, 22-26, 29, 30, 33, and 37 above, and further in view of *Peumans* for the reasons described on pages 12-13 of the Office Action. Applicants respectfully disagree and traverse this rejection for at least the following reasons.

This rejection is substantially similar to the previous rejection in that the Examiner relies on *Peumans* for its alleged teachings related to the use of an exciton blocking layer (EBL), such as BCP. Applicants disagree and traverse this rejection for the previously stated reasons. In particular, *Peumans* does not teach or suggest a electron-hole recombination zone or a nanoparticle layer for separating subcells, and in fact is only used to cure the deficiencies related to the teachings an exciton blocking layer.

Thus, it does not cure the previously described deficiencies of *Forrest '725*, *Sato*, *Hanak*, and *Lewis*. Accordingly, this rejection is not supported by the references and should be withdrawn.

F. The Examiner has rejected claims 27, 28, 35, and 36 under 35 U.S.C. § 103(a) as being unpatentable over *Forrest '725* in view of *Sato*, *Hanak*, and *Lewis* as applied to claims 18, 19, 22-26, 29, 30, 33, and 37 above, and further in view of *Pettersson* for the reasons described on pages 13-14 of the Office Action. Applicants respectfully disagree and traverse this rejection for at least the following reasons.

This rejection is substantially similar to the previous rejection in that the Examiner relies on *Pettersson* for its alleged teachings related to the use of an anode-smoothing layer such as PEDOT. Applicants disagree and traverse this rejection for the previously stated reasons. In particular, *Pettersson* does not teach or suggest a electron-hole recombination zone or a nanoparticle layer for separating subcells, and in fact is only used to cure the deficiencies related to the teachings of an anode-smoothing layer. Thus, it does not cure the previously described deficiencies of *Forrest '725*, *Sato*, *Hanak*, and *Lewis*. Accordingly, this rejection is not supported by the references and should be withdrawn.

G. The Examiner has rejected claim 34 under 35 U.S.C. § 103(a) as being unpatentable over *Forrest '725* in view of *Sato*, *Hanak*, and *Lewis* as applied to claims 18, 19, 22-26, 29, 30, 33, and 37 above, and further in view of U.S. Patent No. 5,854,139 to Aratani et al. ("*Aratani*"), for the reasons described on pages 14-15 of the Office Action. Applicants respectfully disagree and traverse this rejection for at least the following reasons.

The Examiner relies on *Aratani* to remedy the deficiency of Lewis with the regard to the used of silver as a layer of high ohmic conductance material. *Id.* at 15. However, as stated above, replacing the charge-transfer layer of *Forrest '725* with Lewis 's thin layer of high ohmic conductive substance would defeat the intended purpose of *Forrest '725*, and thus the combination suggested by the Examiner is improper. Furthermore, *Aratani* does not teach or suggest a nanoparticle layer for separating the subcells, it cannot cure the previously described deficiencies of *Forrest '725*, *Sato*, *Hanak*, and *Lewis*. In fact, *Aratani* is directed to a field-effect transistor for a liquid crystal display device and teaches nothing related to a photovoltaic device. Accordingly, the combination of references does not support this rejection. Applicants respectfully request that this rejection be withdrawn.

II. Double Patenting Rejections

A. The Examiner rejected claims 18-39 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-26 of U.S. Patent No. 6,198,091 to Forrest et al. (" *'091"*) in view of *Forrest '725* for the reasons described in page 16 of the Office Action. Applicants respectfully disagree and traverse this rejection for at least the following reasons.

The sole independent claim of '091, claim 1, recites a stacked organic photosensitive optoelectronic device, each subcells within the device having a cathode and an anode, and each of said cathodes and anodes being an electrode layer or a charge transfer layer. Claim 1 also recites that device includes subcells that are electrically connected both in series and parallel. See '091 claim 1. As stated earlier,

the electrode layer or the charge transfer layer between the subcells as claimed in '091 or *Forrest '725* is significantly different from, structurally and functionally, the electron-hole recombination zone of the claimed invention. In other words, an electron-hole recombination zone less than about 20 Å or a nanoparticle cannot act as an electrode or a charge transfer layer as '091 requires, and it would actually destroy the primary intent of '091 and *Forrest '725*.

Furthermore, *Forrest '725* actually teaches away from the mixed electrical configuration described in the '091 patent when it expressly teaches that "due to the high series resistance of the organic photovoltaic devices noted above, **a series configuration is undesirable for power applications due to the reduced efficiency** . . . Further, for the reasons noted above, **series connection is not an optimal configuration in stacked organic photovoltaic devices** for high power applications." Page 13, pages 8-29. Emphasis added. It is well-established that it is improper to combine references if their combination would result in the destruction of the intended operation or if a reference teaches away from the claimed invention. See, *In re Laskowski,* 10 USPQ 2d 1397 (Fed. Cir. 1989).

To the extent that *Forrest '725* and '091 disclose the use of a thin-metallic layer of 100 Å in thickness, it was for forming a metallic/non-metallic composite electrode, such metallic layer does not function as an electron-hole recombination zone.

Furthermore, '091 does not suggest the limitation of "the current generated in the first subcell and the current generated in the second subcell differ by less than about 10%. For instance, '091 states that " "the currents through different subcells in the device maybe different since the multiple external connections to the various internal

electrodes allow multiple paths for current to flow so the effect of low current production so the effect of low current production by any particular subcell depend on the load dynamic" '091, col. 25, lines 39-44.

Based on the forgoing, '091 in fact disclosed a device that is significantly distinct from the claimed invention. Rather than cure the deficiencies of '091, as shown above, *Forrest '725* teaches away from both '091, as well as the claimed invention. Accordingly, this rejection is improper, and Applicants respectfully request its withdrawal.

B. The Examiner rejected claims 18-39 on the ground of nonstatutory obviousness-type double patenting as being being unpatentable over claims 1-27 of U.S. Patent No. 6,198,092 to Bulovic et al. ("'092") in view of *Forrest '725* for the reasons described in pages 16-17 of the Office Action. Applicants respectfully disagree and traverse this rejection for at least the following reasons.

The sole independent claim of '092, claim 1, recites a stacked organic photosensitive optoelectronic device, each subcell within the device having a transparent cathode and a transparent anode, wherein the subcells are electrically connected in parallel. See '092 claim 1. As stated earlier, the electrode layer between the subcells as claimed in '092 or *Forrest '725* is significantly different from, structurally and functionally, the electron-hole recombination zone of the claimed invention. In other words, an electron-hole recombination zone less than about 20 Å or a layer of nanoparticle cannot act as an electrode as '092 requires, or would actually destroy the primary intent of '092 and *Forrest '725*. Thus, the present invention is distinct from the

device disclosed in '092 or *Forrest '725*. Accordingly, Applicants respectfully request the Examiner to withdraw this rejection.

C. The Examiner rejected claims 18-39 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-31 of copending Application No. 10/822,774 to Forrest et al. in view of *Forrest '725* for the reasons described in pages 17 of the Office Action. Applicants respectfully disagree and traverse this rejection for at least the following reason.

Application No. 10/822,774 is an abandoned application as indicated in the Patent Application Information Retrieval (PAIR) system. Provisional nonstatutory obviousness-type double patenting rejection applies only to copending applications. Accordingly, this rejection is moot. Applicants thus respectfully request the Examiner to withdraw this rejection.

D. The Examiner rejected claims 18-39 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-29 and 32-36 of copending Application No. 10/910,371 to Xue et al. ("*Xue*") in view of *Forrest '725* for the reasons described in pages 17-18 of the Office Action. Applicants respectfully disagree and traverse this rejection for at least the following reasons.

In making the rejection, the Examiner apparently erred in construing that *Xue* discloses a *stacked* organic photosensitive optoelectronic device. Specifically, the Examiner takes the position that *Xue*'s first organic layer is the first subcell and *Xue*'s second organic layer is the second subcell. See id. at 17. Contrary to the Examiner's

allegation, a subcell, as claimed in the present invention, comprising separated layers of an electron donor layer **and** an electron acceptor layer, and neither of *Xue*'s two organic layers satisfy the claimed limitation and should not be construed as a "subcell". The Examiner indicates on page 24 of the Office Action that "the language comprising an electron donor layer and an electron acceptor layer" in the instant claims is so broad that it encompasses the situation in the claims of the '744 and '371 applications where the electron donor and electron acceptor are in the same layer." Applicants strongly disagree. A mixture of an organic acceptor material and an organic donor material is not a "subcell", at most, it should be construed as one of the layer within a subcell, and its intended function would depend on the second organic layer to which it directly is in contact with. For instance, *Xue* states that "first organic layer acts a bulk heterojunction, in which photogenerated excitons may dissociate into electrons and holes." *Xue*, paragraph [0029]. Furthermore, *Xue*'s second organic layer is an unmixed layer of the organic acceptor material or the organic donor material of the first organic layer, it is not even a "subcell" per se. Accordingly, *Xue* does not disclose a stacked organic photosensitive optoelectronic device. Applicants further direct the Examiner's attention that claim 1 in *Xue* recites that the second organic layer is in direct contact with the first organic layer. Even if the Examiner insists on holding that *Xue* disclosed a stacked photovoltaic device, which Applicants disagree, the mere fact that the two layers of *Xue*'s device are not separated by an electron-hole recombination zone clearly indicates that *Xue* and the present invention are patentably distinct and not the same. Accordingly, Applicants respectfully request the Examiner to withdraw this rejection.

III. Conclusion

In view of the foregoing remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 501946.

Respectfully submitted,

McDERMOTT WILL & EMERY LLP

Marc E. Brown, Registration No. 28,590

Please recognize our Customer No. 33401 as our correspondence address.

2049 Century Park East, 38th Floor
Los Angeles, CA 90067
Phone: (310) 277-4110
Facsimile: (310) 277-4730

Date: October 28, 2008